UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,529	06/29/2001	Peter L. Doyle	42390P11480	8180

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EXAMINER
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ART UNIT	PAPER NUMBER
2676	

DATE MAILED: 10/27/2003   5

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>04 January 2002</u> .

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-32</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-6,11-15,19-24,27 and 30-32</u> is/are rejected.

7) ☐ Claim(s) <u>7-10,16-18,25,26,28 and 29</u> is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>29 June 2001</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>3</u> .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2.   Claim 18 recites the limitation "the graphics device" in line 2. There is insufficient antecedent basis for this limitation in the claim.

3.   Claim 28 recites the limitation "the timing circuit" in line 2. There is insufficient antecedent basis for this limitation in the claim.

4.   Claim 29 recites the limitation "the timing circuit" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6.   Claim(s) 1, 19, 20 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,455,958 to Flurry et al.

   a.   Regarding claim 1, Flurry et al. discloses a graphics-rendering engine (X Server program module 14, Fig. 1...as a display resource manager...col. 4, lines 14-44) to concurrently render two or more independent images for display on multiple display devices (...this invention is designed to function with several display devices connected to it...col. 5, lines 25-30) and a time allocator (rendering context manager (RCM) 22, Fig. 1) (...initially, Client B 18 and Client C 20,...access the X Server 14 in order to have display device resources...allocated to them...these accesses are performed in a manner that

allows the client B 18 and Client C 20 to exist independently of each other...col. 4, lines

14-44...the rendering context manager (RCM) 22 is to ensure that as it permits each

applications program to access the display device, it also places on the display device the

proper rendering context, or environment , for that applications program...col. 5, lines 6-

25) to arbitrate the use of the graphics-rendering engine between the two or more

independent images with the Client B 18 and Client C 20 modules being able to display

information.

b.   Regarding claims 19 and 20, they are similar in scope to claim 1 above and is

rejected under the same rationale.

c.   Regarding claim 30, it is similar in scope to claim 1 above and is rejected under

the same rationale.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

8.   Claim(s) 2-5, 9, 11-15, 21-24, 27, 31 and 32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over U.S. Patent No. 5,455,958 to Flurry et al. in view of U.S. Patent No. 6,311,204

to Mills.

a.   Regarding claims 2 and 31, Flurry et al. while **disclosing** a time allocator **fails**

to suggest a plurality of registers having a plurality of fields wherein a first field that

determines whether the first register participates in an arbitration process to use the

graphics rendering engine and a second field to point to a memory allocation. Mills.

discloses processing system with register-based process sharing. The acquire bit

portion 352 (Fig. 9A) of the semaphore register 350 indicates other processes when it engages the drawing acceleration engine similar to the instant claim where a first field indicates whether the first register will participate in using the graphics engine (col. 27, lines 18-63). The process identifier portion 354 of the semaphore register 350 can be made to point to a memory location for fetching instructions from a first instruction stream. This is not explicitly discloses but such operation falls within the realm of fetching instructions being pointed to by a process identifier portion of the semaphore register. Therefore, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify the device as taught by Flurry et al. with the feature "register-based process sharing" as taught by Mills **because** this would result in improved efficiency and reduce cost and complexity.

b.   Regarding claims 3 and 31, Flurry et al. **discloses** RCM setting up a timer for each domain and registers the timer handler with the kernel similar to the instant claim 3 where programmable elapsed period of time to use the graphics engine (col. 9, lines 20-30.

c.   Regarding claim 4, Flurry et al. as modified by Milss **discloses** in step 370 determining if the process is still using the engine and when it does complete its use of the engine, the cleared acquire bit indicates engine is available for use by other processes which is similar to generating a signal when a second register should be allowed use of graphics-rendering engine. Therefore, it would have been obvious to a person of a ordinary skill in the art at the time invention was made to modify Flurry with the feature "cleared acquire bit" of Mills **because** it provides for efficient use of graphics rendering resource.

d.   Regarding claim 5, wherein a first module directs the graphics-rendering engine to process instructions stored in a first memory having an address defined by

information contained in the plurality of the fields, this is implicitly taught by Mills as described above (fetching instructions being pointed to by a process identifier portion of the semaphore register) (col. 27, lines 18-63).

e.   Regarding claim 9, Flurry et al. **discloses** waiting for an asynchronous event to occur and handle the graphic device instructions accordingly (col. 19, lines 15-67; col. 20, lines 1-11).

f.   Regarding claim 11, Flurry et al. **discloses** the possibility of a first display device and a second display device (col. 5, lines 25-30).

g.   Regarding claim 12, Flurry et al. **discloses** a graphics context manager (rendering context manager 22, Fig. 1, 6-31).

h.   Regarding claims 13 and 14, Flurry et al. **discloses** client window attribute data structure (blocks 78 and 80, Fig. 5) similar to a first and a second memory area (col. 7, lines 1-67; col. 8, lines 1-35), and instruction transports (device process 72, Fig. 5).

i.   Regarding claim 15, Flurry et al. **discloses** each instruction transport is associated with a particular display device (col. 7, lines 30-35).

j.   Regarding claim 21, it is similar in scope to claim 12 above and is rejected under the same rationale.

k.   Regarding claim 22, it is similar in scope to claim 11 above and is rejected under the same rationale.

l.   Regarding claim 23, it is similar in scope to claim 12 above and is rejected under the same rationale.

m.   Regarding claim 24, it is similar in scope to claim 2 above and is rejected under the same rationale.

n.   Regarding claim 27, it would have been obvious to a person of ordinary skill in the art at the time invention was made to modify the device as taught by Flurry with the

feature "process identifying portion 354" as taught by Mills that will provide for defining

the memory area by programmable content contained in a register **because** process

identification inherently includes bounds of memory location where this process might

by carried out.

9.   Claim(s) 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No.

5,455,958 to Flurry et al. in view of U.S. Patent No. 6,311,204 to Mills as applied to claim 2

above and further in view of U.S. Patent No. 6,339,427 B1 to Laksono et al.

   a.   Regarding claim 6, the first memory area having a start and an end, the

   wrapping-around of instructions essentially details a circular buffer which is **disclosed**

   by Laksono et al. (col. 3-6, lines 1-67). Therefore, it would have been obvious to a person

   of ordinary skill in the art at the time invention was made to modify the Flurry-Mills

   combination with the feature "circular buffer" as taught by Laksono et al. **because** it

   results in efficient use of memory space.

Allowable Subject Matter

10.   Claim(s) 7-10, 16-18, 25, 26, 28 and 29 are objected to as being dependent upon a

rejected base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims.

Conclusion

11.   The prior art made of record but not relied upon is relevant to present application (U.S.

Patent No. 6,252,600).

12.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to **Dalip K. Singh** whose telephone number is **(703) 305-3895**.

The examiner can normally be reached on Mon-Thu (8:00AM-6: 30PM) Fridays off.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, **Matthew Bella**, can be reached at **(703) 308-6829**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

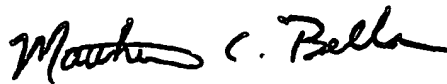Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,

Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the Technology Center 2600 Customer Service Office whose telephone

number is (703) 306-0377.

dks

October 20, 2003

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600